## In the Claims

Claim 1 is cancelled and the following new claims are added to read as follows:

	2.	(New) A method for assessing toxicity and toxicology of a compound.
2	comprising:	
		a) exposing a set of genes to a compound;
4		b) monitoring the response of each gene in the set of genes to the
	compound;	
6		c) creating gene expression profiles using two or more variables;
		d) creating composite variables from the gene expression profiles
8	of (c);	
		e) creating one composite from the composite variables of (d); and
10		f) comparing the results of (e) to a profile of a known compound.
	3.	(New) The method of Claim 2, wherein the set of genes comprises 10-
2	100,000 gene	S.
	4.	(New) The method of Claim 2, wherein the variables are time.
2	treatment or o	dose.
	5.	(New) The method of Claim 4, wherein the variables of (c) are dose and
2	time.	
	6.	(New) The method of Claim 2, wherein the response of the genes is
2	averaged.	
	7.	(New) The method of Claim 2, wherein the gene expression profiles are
2	created using	contrast analysis.
	8.	(New) The method of Claim 2, wherein the gene expression profiles are
2	created using	cluster analysis.
	9.	(New) The method of Claim 2, wherein the gene expression profiles of
2	(d) are create	ed using principal component analysis, partial least squares, or factor
	analysis.	

- 10. (New) The method of Claim 2, wherein the composite variables of (e)
- 2 are created using logistic regression, or discriminant analysis.
  - 11. (New) A method for screening a compound for a toxicological effect,
- 2 comprising
  - (a) selecting a plurality of polynucleotide targets wherein the
- polynucleotide targets have a first gene expression levels altered in tissues treated with known toxicological agents;
- 6 (b) treating a second tissue sample with a compound to be tested to induce second gene expression levels of a plurality of polynucleotide;
- s (c) comparing the first expression level of (a) with the second expression level of (b).
- 12. (New) The method of Claim 11, wherein the similarity of the first expression level to the second expression level correlates with a toxicological effect.
- 13. (New) The method of Claim 11, wherein the tissue samples are liver,
- 2 kidney, brain, spleen, pancreas and lung.
  - 14. (New) The method of Claim 11, wherein the known toxicological agent
- 2 is acetaminophen.
  - 15. (New) The method of Claim 11, wherein the known toxicological agent is
- 2 CCI<sub>4</sub>.

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- 16. (New) A method for monitoring the expression of a multiplicity of
- 2 genes comprising
  - (a) providing a pool of target nucleic acids comprising mRNA
- 4 transcripts of one or more genes;
- (b) hybridizing the pool of nucleic acids to an array of
- 6 oligonucleotide probes fixed to a surface:
  - (c) quantifying the hybridized nucleic acids in the array.
- 17. (New) The array of Claim 16, wherein the array comprises 400,000
- 2 different oligonucleotide probes per cm<sup>2</sup>.

- 18. (New) The method of Claim 16, wherein the oligonucleotide arrays are synthesized by very large scale immobilized polymer synthesis.
- 19. (New) The method of Claim 16, wherein the target nucleic acids are labeled.
- 20. (New) The method of Claim 19, wherein the target nucleic acids are labeled prior to hybridization.
- 21. (New) The method of Claim 16, wherein the oligonucleotides in the array are paired target specific oligonucleotides.
- 22. (New) A method for monitoring message levels of a multiplicity of
  pre-selected genes in the presence of a large abundance of non-target nucleic acids comprising the use of high density oligonucleotide arrays.